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INDIAN NOTES AND MONOGRAPHS

VOL. VII No. 1

CERTAIN ABORIGINAL POTTERY FROM SOUTHERN CALIFORNIA

BY GEORGE G. HEYE

NEW YORK
EUM OF THE AMERICAN INDIAN
HEYE FOUNDATION
1919

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INDIAN NOTES AND MONOGRAPHS

A SERIES OF PUBLICATIONS RELATING TO THE AMERICAN ABORIGINES

VOL. VII, No. 1

NEW YORK
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1919

THIS series of INDIAN NOTES AND MONOGRAPHS is devoted primarily to the publication of the results of studies by members of the staff of the Museum of the American Indian, Heye Foundation, and is uniform with HISPANIC NOTES AND MONOGRAPHS, published by the Hispanic Society of America, with which organization this Museum is in cordial coöperation.

CERTAIN ABORIGINAL POTTERY FROM SOUTHERN CALIFORNIA

BY

GEORGE G. HEYE

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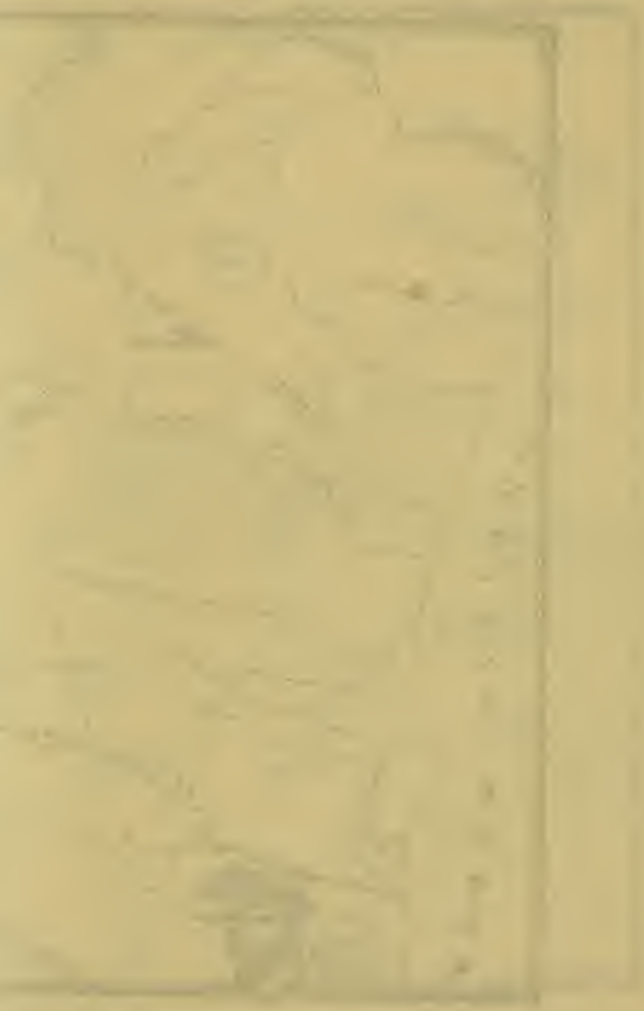
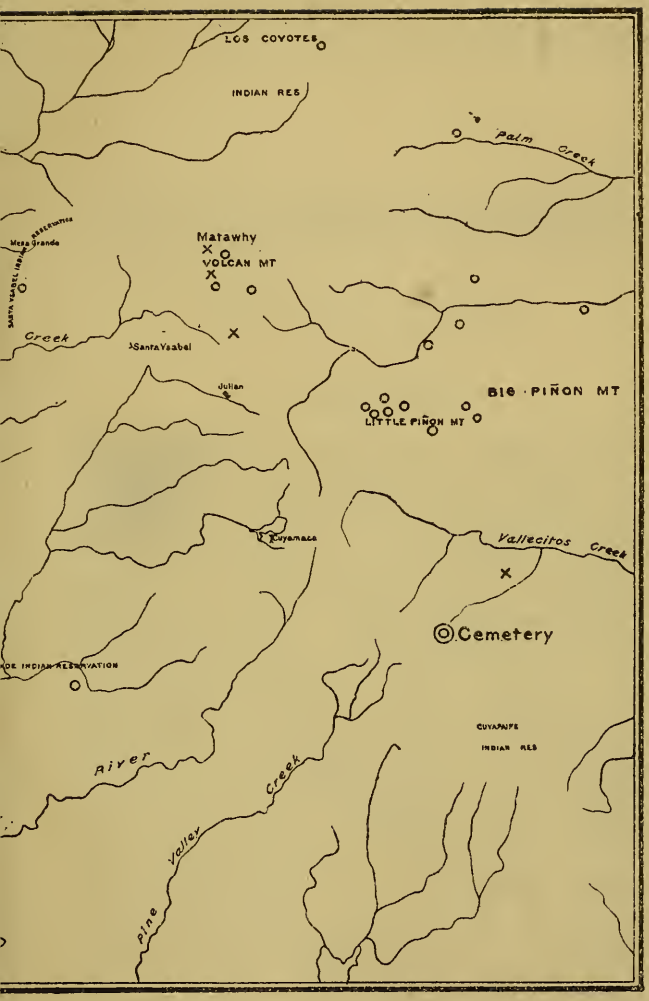
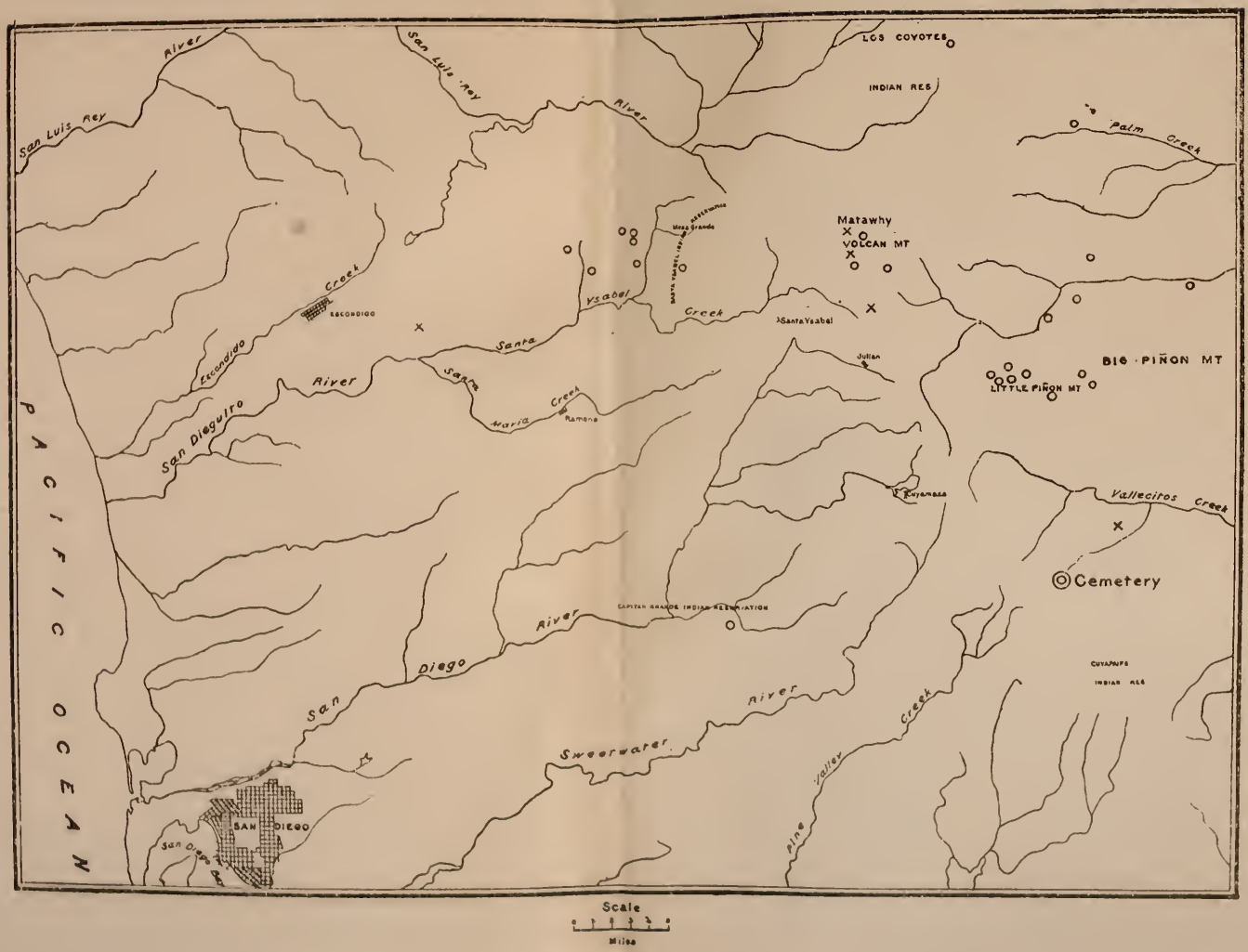


MAP SHOWING LOCATION OF POTTERY



IN SAN DIEGO COUNTY, CALIFORNIA



MAP SHOWING LOCATION OF POTTERY FINDS IN SAN DIEGO COUNTY, CALIFORNIA

CERTAIN ABORIGINAL POTTERY FROM SOUTHERN CALIFORNIA

By George G. Heye

INTRODUCTION

THE earthenware vessels herein described were either uncovered by excavation or were found in caves and rock-shelters in San Diego county, southern California (pl. 1). Mr Edward H. Davis, of Mesa Grande, in the heart of the mountains, fifty-six miles northeast of San Diego, discovered some of the receptacles *in situ*, while others were brought to him by both Diegueño and Luiseño Indians living on the nearby reservations. The vessels consist of two classes: those which had been employed for mortuary purposes, and those used in a strictly utilitarian way, for cooking or for storage,

or as water containers. Although the localities in which some of the pottery was found is known to various Indians, who spoke of having seen some of the vessels in caves, they seem to have regarded the handling of them with more or less superstitious dread, for it was only after continued urging during a period of ten years, that the first piece, a mortuary olla found in a cave, was brought in by one of them.

Regarding the mortuary ollas of the Diegueños, Miss Constance Goddard Dubois,[1] writing twelve years ago, says:

"For years I have pursued the search for a mortuary olla among the Diegueño Indians of southern California, and, like a will-o'-the-wisp, it has allured only to escape me. The Indians all knew of these burial jars, and the whereabouts of some were known to the initiated; but to meddle with them was sacrilege.

"An educated Indian girl who shared the feelings of her people wept when it was suggested that her grandfather should secure one for my benefit. It was represented to her that it was to be used for the benefit of science and not to satisfy an idle curiosity; that those thus buried were so long forgotten that it was not like dis-

ANTONIO CUEVAS AT THE CEMETERY NEAR VALLECITOS

(Photo by E. H. Davis)

turbing the remembered dead. But the casuistry availed little, and she was happy when the search proved futile.

"At last, through the efforts of a friend, an aged Indian was induced to disclose the secret locality where the burial had been made; and guided by his directions another old Indian undertook the search. Not daring to pursue the adventure alone, he induced a friend to accompany him; the latter, caring little for the old religion, had in fact been for years enlisted in the quest for the mortuary olla, but hitherto in vain.

"Following the directions of their guide, the two reached the distant cañon in the mountains, searched among the fallen granite rocks, most often the spot selected for a cache, and digging here they found two burial jars, or ollas, intact and perfect."

Miss Dubois[2] also wrote:

"The former [the Diegueños] used pottery not only for domestic purposes, but in the form of burial vessels, ollas, for the preservation of the ashes of the dead. After the body was burned, the ashes and bones were collected and deposited in the pottery receptacle or olla, and carefully buried in some secret place. The whereabouts of some of the burial ollas are still known to the initiated. Others have been discovered by chance by tourists and collectors. With the

Indians, to betray the secret would be to profane the most sacred things of their religion. Fortunately two fine specimens of these rare objects have lately been secured. They were found buried among fallen granite rocks in a distant cañon of the mountains near a deserted Indian village. They contained bits of burned bones, charcoal, arrow-heads, etc.

"Next in importance were the large storage pots or ollas for the seed supply of the family. The seeds, carefully harvested, were deposited in these receptacles, which were hidden among heaps of rocks in cañons or on almost inaccessible mountain sides, discouraging discovery, but allowing the members of the household to resort to this granary in time of need."

It was not until 1918, or twenty years after the first vessel was obtained by Mr Davis, that a Diegueño Indian was persuaded to reveal the site of a cemetery (pl. II), which, on excavation, yielded twenty-one mortuary receptacles.

As to the second class of vessels, consisting of large storage jars for seeds, as well as water and cooking jars, it is doubtful if any of them are of ancient origin; indeed one specimen now in the collection of the Museum of the American

SOME OF THE TWENTY-ONE MORTUARY VESSELS AT THE VALLECITOS CEMETERY

Indian, Heye Foundation, was made by the grandmother of the middle-aged Indian from whom it was obtained.

We wish to express our appreciation not only of the perseverance and enthusiasm manifested by Mr Davis, which made possible the collection herein described, but also of the valued information which he has generously furnished in regard to the objects composing the collection.

FUNERAL CUSTOMS

The custom of cremation was practised by both the Luiseños and the Diegueños. The mortuary rites of the former are described by Father Gerónimo Boscana, who had long been a missionary at San Juan Capistrano and who died in 1831.[3] He wrote:

"When the patient died under the attendance of these physicians, then preparations were made for his sepulture, or the burning of his body, according to a custom observed here, in commemoration of the last ceremonies rendered to the remains of their grand chieftain Ouiot. They did not put into immediate execution the

solemn duties and funeral performances, but suffered several hours to elapse, that they might be assured of his death. In the meantime the pile was prepared, and the person summoned, who officiated on such occasions in applying the torch; for it was usual, in this neighborhood, to employ certain characters, who made their livelihood by it, and who, generally, were confined to particular families. As soon as everything was prepared, and the time had arrived for the ceremony, they bore the corpse to the place of sacrifice, where it was laid upon the faggots. Then the friends of the deceased retired, and the burner (so called) set fire to the pile, and remained near the spot until all was consumed to ashes. The ceremony being concluded on his part, he was paid for his service, and withdrew. Everything of use, belonging to the deceased, such as his bow and arrows, feathers, beads, skins, &c. were consumed with him, whilst his relatives and friends added, also, other articles of value to the sacrifice, but during the scene of burning they did not observe any particular ceremony, nor had they any; for as soon as the burner gave notice that he had performed his task, they all retired outside of the town to mourn the decease of their friend."

It will be observed that no mention is made of urn burial, but this may be accounted for by the fact that after the

BLACK MOUNTAIN, SHOWING ROCKS (IN LINE WITH THE GAP) WHERE ONE OF THE DEPOSITS WAS FOUND

(Photo by Thea Heye)

arrival of the missionaries, cremation was disapproved by them, and it is possible that Father Boscana did not wish to admit that the ashes had been taken care of in this manner, as it would have set a bad example for future generations. Nevertheless, cremation has been practised within the memory of some of the oldest of these Indians, although secretly, owing to the ban early placed on the custom.

Inquiry among some of the older Diegueño Indians of the Mesa Grande and Santa Ysabel reservations brought forth the assertion that in former years the cremated dead were placed in jars. The following facts concerning the ancient burial ceremonies were obtained from Antonio Cueva (pl. II), a full-blood Diegueño of the Mesa Grande reservation, who derived them from his grandparents, who in turn had been informed of the manner in which cremation had been practised before the customs of their forefathers became modified by the influence of the Spanish missionaries.

If a death was imminent, a pit about three feet deep was dug with a stick and the bare hands, in expectation of the event. Immediately after the death, brush and logs were piled four or five feet high over the pit, and shortly afterward, often within an hour of the death, the body was brought and placed on top of the heap, which was then set afire. The nearest relatives and friends of the departed mourned and wailed in a nearby house, but did not attend the burning of the remains. When the flames reached the body, the muscles contracted, and often the corpse writhed and arose as if alive. After the pyre had burned down and the remains were practically consumed, it is related that the heart always remained, and one of the chief duties of the attendant was to turn the heart constantly with a stick until it also was ultimately consumed. The attendant always kept to the windward of the smoke and gases, for it was believed that to inhale them would cause severe illness, if not death. As soon as the bones

JOSEFA HILSHMEUP AND CATALINA CUEVA, WITH SOME OF THEIR POTTERY

(Photo by E. H. Davis)

became sufficiently cooled, they were broken into small pieces with a stone in the hands of an old female relative, if there were one, otherwise this function was performed by a younger woman. The calcined bones and the ashes were then gathered and placed in a jar. These receptacles were probably not made especially for mortuary use, but had been employed for domestic purposes. After the incinerated remains had thus been deposited in the vessel, a cover was usually placed over the top to protect the contents from earth and drifting sand. In one or two cases this cover was a small pottery bowl (fig. 3), but generally it consisted merely of a potsherd, and in others a haliotis shell. When the body of a man was cremated, his bows, arrows, and other personal belongings were burned with him, while in the case of a woman or a child, the personal ornaments or the toys, as the case might be, were similarly sacrificed. The mortuary jar was placed in the pit referred to, then filled with ashes and earth (figs. 1, 3).

The metate of the deceased was broken in two and the pieces placed one above the other over the burial (fig. 2). The "spirit" of a grinding stone thus "killed"

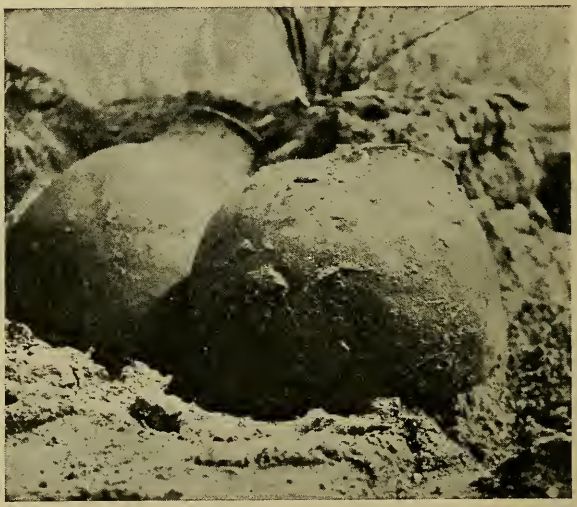
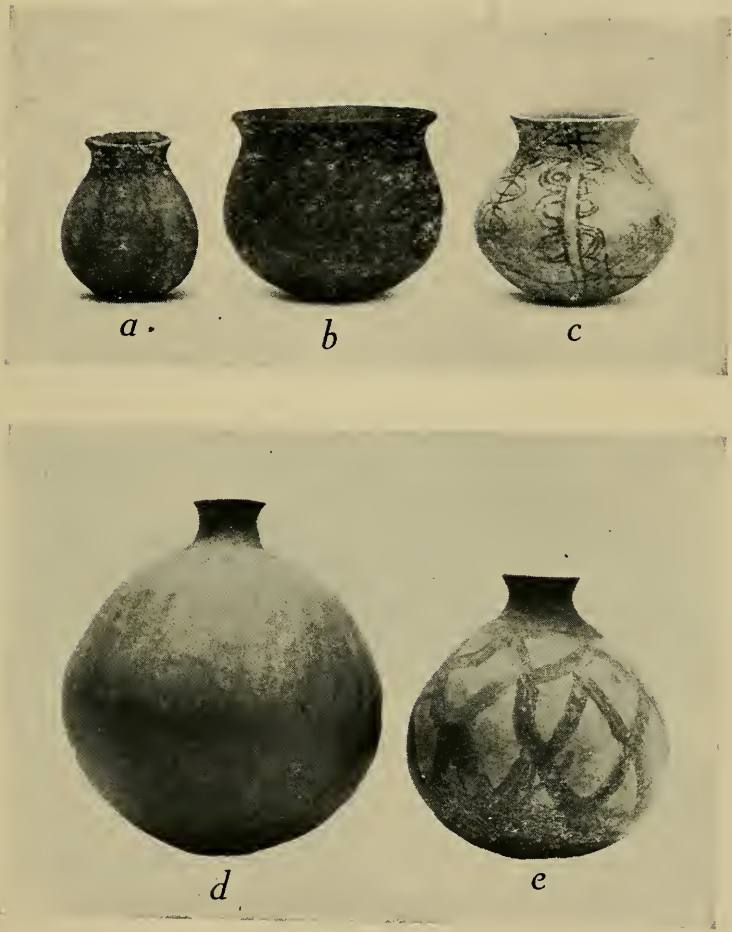


FIG. 1.—Mortuary jars uncovered in the cemetery.

was supposed to be released and to depart with the owner of the object. The relations of the deceased were called together, and about three days later an all-night ceremony was performed, the relations



PAINTED JARS

Height: *a*, 4¼ in.; *b*, 4⅞ in.; *c*, 5 in.; *d*, 14⅛ in.; *e*, 11¼

providing a feast. A chief sang throughout the ceremony, his songs detailing the genesis of the tribe and closing with a recital of the death ceremony transmitted by the culture hero. When the singing

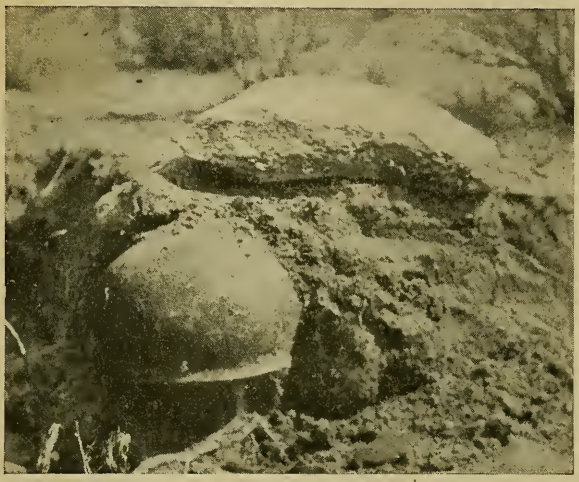


FIG. 2.—Inverted mortuary jar, with broken metate placed as a marker.

ceased, all articles that had not belonged to the departed were removed from the house, while those that had been his property were piled within the brush hut, which, with its contents, was then burned

to the ground. At daybreak the ceremony was finished, and the nearest female relatives cut their hair and painted their faces black with mescal juice, while the

FIG. 3.—Mortuary jar covered with an inverted bowl.

men colored their faces with red hematite. The hair thus shorn by the women was saved for the Image Ceremony, which

JAR

(Height 33⅛ in.)

was performed a year later.[4] In the course of time the wind blew the sand about and the charred fragments of the brush-pile became visible on the surface.

MORTUARY JARS

A Diegueño had been told by an aged aunt that, in her childhood, she had learned of a cemetery where "a long time back many of her people had been burned." The locality was said to be near the headwaters of Masons creek, in Vallecitos valley, between Little Laguna mountain and Garnet mountain (indicated on the map, pl. I, by a concentric circle). After some search the Indian found a small area on which were fragments of charcoal and pieces of broken metates, suggesting an Indian cemetery (pl. II). After much persuasion, the site was disclosed, and on excavation yielded twenty-one mortuary jars, all within an area of about twenty feet square, and at a maximum depth of about two feet, but reaching to the surface (pl. III). All of the jars contained a greater or lesser

quantity of calcined human bones, and in the main deposited two or three feet apart, but a few were in contact and most of them were about twelve inches below the surface. The majority of the vessels were upright, but several lay on their sides, while one was inverted, with the calcined bones beneath (figs. 1–3). The metates on the surface were generally broken in two almost equal pieces. Two of these implements give indication of having been subjected to the fire that consumed the bodies and were broken in several pieces, while three or four others were found a few inches below the surface, the sand evidently having drifted over them. Only one of the metates was found intact. All of these implements are of the thin, light variety, such as might readily be carried about, hence unlike the heavy household objects of this kind. Altogether at this cemetery sixteen metates were found.

The jars were all surrounded with charcoal fragments, thus supporting the account of the custom, given above, of

JAR

(Height 26½ in.)

burying the mortuary receptacles in the original fire-pits.

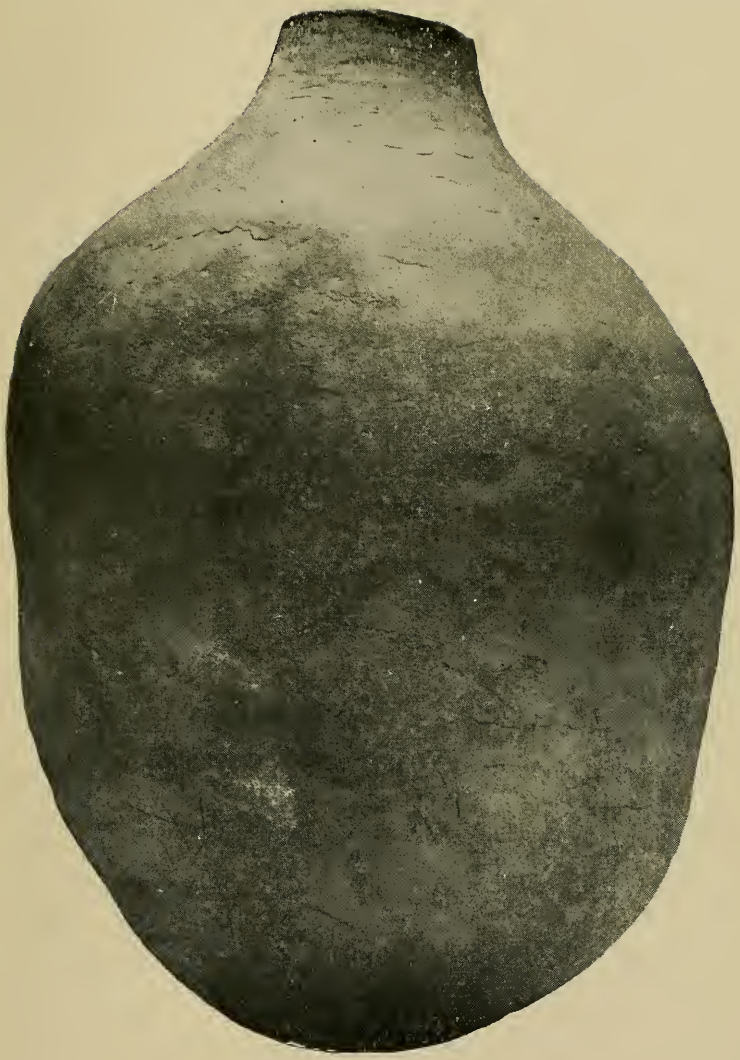
The entire collection of earthenware vessels herein referred to numbers four hundred and sixty-four specimens, of which forty-two were found in caves or under rocks, while the remainder were uncovered by excavation. Of the entire number, eighty-two contained cremated human remains, and of these only three were recovered from caves.

The localities in which the pottery was found are indicated on the map (pl. 1), those in which the mortuary jars were found being represented by a cross, and the others by a circle. The exact sites at which ninety-eight of the vessels were found is unknown, because the Indians who brought them in refused to divulge the localities, stating only that they came "from the desert," which to them means the area east of Volcan and Laguna mountains. Most of the territory in which the jars were discovered is mountainous, with outcroppings of granite, under which the ollas were sometimes deposited. Plate

IV shows such a rock-shelter, on the eastern side of Black mountain, from which two of the jars were recovered.

All the mortuary jars are of coarse, reddish-brown ware, similar to the pottery still made by the Mission Indians, as shown by the illustration (pl. v) of a Diegueño mother and her daughter, of Cuyapaipe (about five miles from the site of the cemetery above described), with some of their earthenware product.

Among the articles found with the calcined bones are pieces of iron and brass, china, and glass beads. This occurrence of articles of civilization, in conjunction with the fact that no pottery has been found on the adjacent coast or on the Channel islands, where vessels of steatite and other stone were in use, and also with the knowledge that the neighboring tribes have always used basketry receptacles to a large extent, compels the conclusion that the ceramic art among the Diegueños is not an ancient one. Referring to the age of one of the Diegueño mortuary jars described by her in 1907,



JAR

(Height 29⅝ in.)

Miss Dubois[5] says that it "is evidently not prehistoric, but is probably a hundred or a hundred and twenty years old." On the other hand, Sparkman,[6] writing of the earthenware of the tribes of southern California, says:

> "Some doubt has been expressed as to whether the Indians of Southern California understood the art of making pottery before the arrival of the friars. It does not seem that there is any doubt that at least some of them did. Costanso's report of the expedition of 1769 speaks, though somewhat vaguely, of the Indians of San Diego as using pottery. The Luiseños themselves say positively that they were pottery makers."

The mortuary jars under discussion are characterized by two general types: those with small, narrow mouths, and those with fairly wide mouths. Both types have globular or ovate bodies. These vessels correspond in form and size with many jars, found either underground or in caves, that contained no human remains and which were used as water containers or as cooking utensils, the latter indicated by their blackened surfaces. In fact, similar pottery re-

ceptacles are in use today, hence there is every evidence that no attempt was

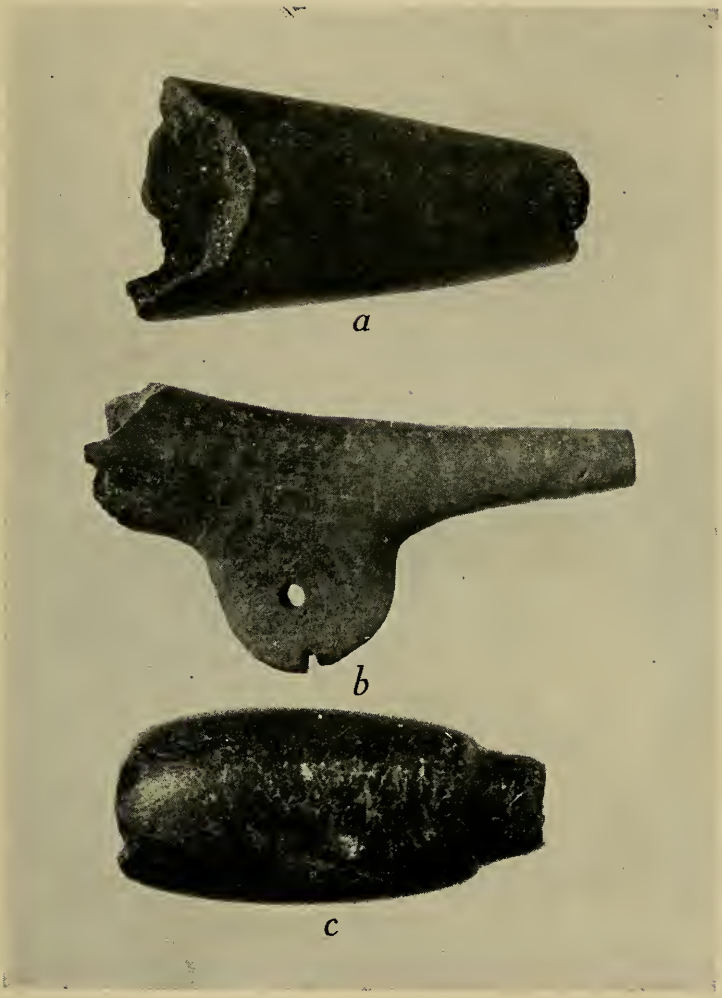
a *b* *c*

FIG. 4.—Height: *a*, 6⅜ in.; *b*, 9¼ in.; *c*, 7⅞ in.

a *b*

FIG. 5.—Height: *a*, 15¾ in.; *b*, 12½ in.

made to manufacture a special type for mortuary purposes.



PIPES

(Length: *a*, 2⅝ in.; *b*, 3 in.; *c*, 2⅜ in.)

The mortuary jars characterized by their small necks vary in size from 6⅜ in. (fig. 4, *a*) to 15¾ in. in height (fig. 5, *a*), and before employed for funerary purposes were probably used as water ollas. Other examples, varying slightly as to form and size, but of the same class, are

a *b*

FIG. 6.—Height: *a*, 11 in.; *b*, 12⅛ in.

illustrated in figs. 4, *b*; 5, *b*, and 6. The two specimens exhibited in fig. 7 were perforated in two places near the rim before firing. As a considerable number of the recent water jars are also provided with means of attaching a thong for

hanging them while in use for cooking purposes, we have further evidence that these utensils were primarily utilitarian.

The wide-mouth jars, illustrated in figs. 8, 9, and 10, *a*, do not differ in color or in ware from those with narrow necks.

a *b*

FIG. 7.—Height: *a*, 6½ in.; *b*, 7⅜ in.

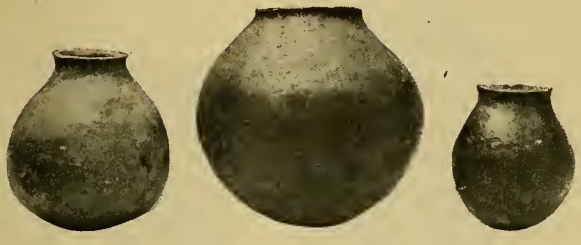
Of this form there are nineteen, or about a fourth of the total number of mortuary jars in the collection from southern California.

When found, nearly all of the mortuary vessels were covered, most often by a potsherd (pl. XII, *a*), sometimes by either

PIPES

(Height: *a*, 2⅞ in.; *b*, 3¼ in.; *c*, 2⅜ in.)

a whole or a part of a haliotis shell, and in one instance by an inverted bowl



a *b* *c*

FIG. 8.—Height: *a*, 7⅝ in.; *b*, 9½ in.; *c*, 6¼ in.

(figs. 3 and 11, *a*). This was done, of course, in order to keep the sand from

a *b* *c*

FIG. 9.—Height: *a*, 8½ in.; *b*, 10¼ in.; *c*, 7¾ in

drifting into the vessels, which could be more readily accomplished in the case of

a small-mouthed olla; hence we see the reason for the use of this form of vessels

a *b*

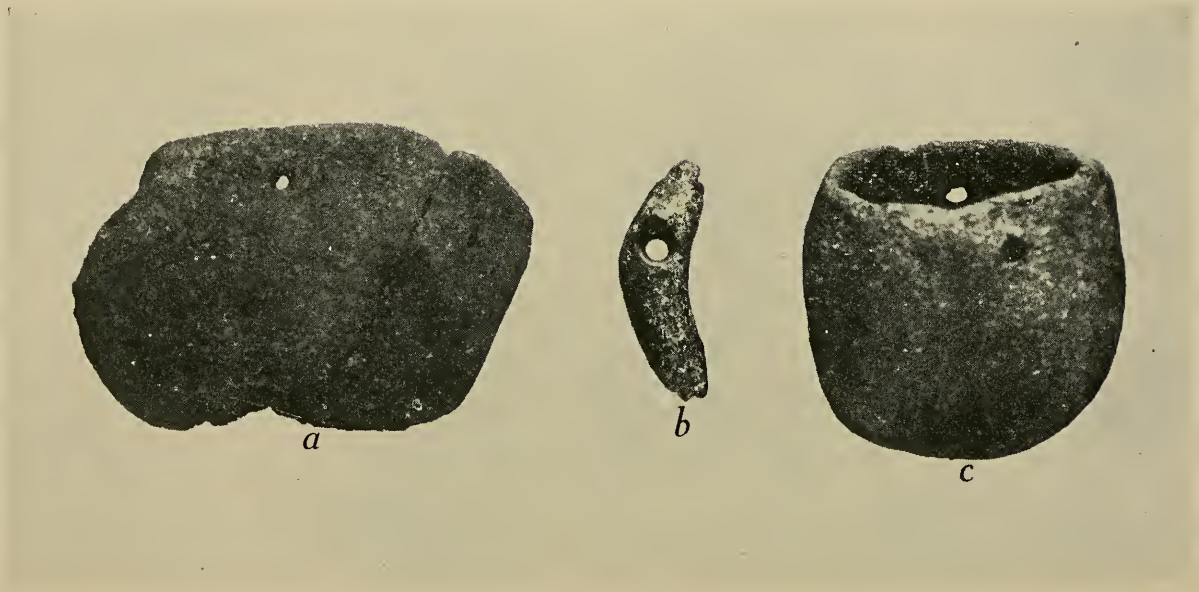
FIG. 10.—Height: *a*, 10¾ in.; *b*, 8 in.

in such a large majority of cases, in spite of the fact that it must have been more

a *b*

FIG. 11.—Width: *a*, 8⅞ in.; *b*, 10¼ in.

difficult to place the cremated remains in them.



FRAGMENT OF SMALL BOWL, STEATITE PENDANT, AND MINIATURE JAR

(⅔ nat. size)

Of all the vessels used for mortuary purposes, only four, two from each type, exhibit an attempt at painted decoration.

FIG. 12.—Height 15 in.

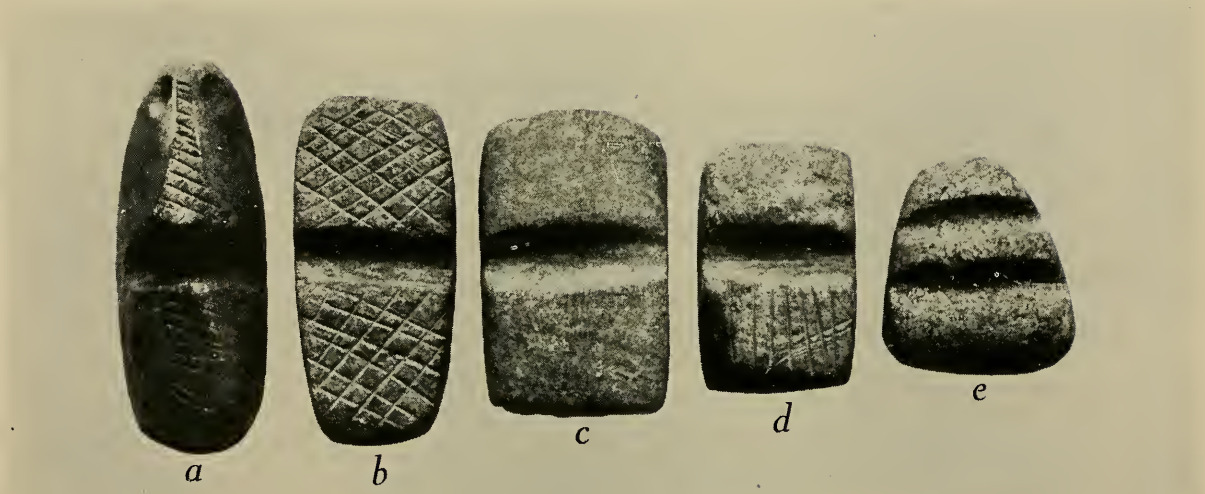
In these cases the ornamentation consists of a deep red paint crudely applied on ware of light reddish brown (pl. VI, *a*, *c*, *d*, *e*).

VESSELS OTHER THAN MORTUARY

Of the remaining three hundred and eighty-two vessels, thirty-nine were found

FIG. 13.—Height 25⅝ in.

in caves or rock-shelters, while the others were wholly or partly unearthed near



ARROWSHAFT SMOOTHERS

(The length of *a* is 4⅛ in.)

these caches. Many of them may have been used as mortuary receptacles, but, if such were the case, owing to the winds

a *b*

FIG. 14.—Height: *a*, 12⅛ in.; *b*, 4 in.

and the shifting sands no evidence of their former contents remained.

The large non-mortuary jars were used for the storage of seeds, and are of the usual globular or ovate forms, with small necks, and vary in size from 15 in. high

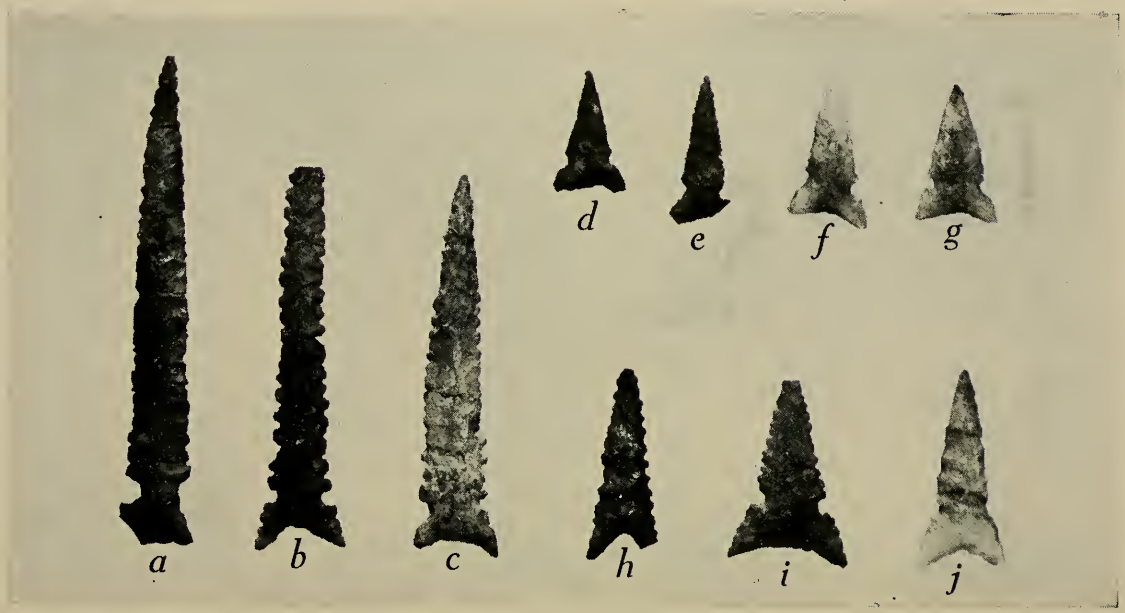
(fig. 12) to 33⅛ in. (pl. VII). Other examples are illustrated in pl. VIII and IX, and fig. 13. Two specimens (fig. 14) are each provided with two small necks.

Jars with wider mouths, similar to those used for burial purposes, were also found. Fig. 9, *c*, exhibits one of these,

a *b*

FIG. 15.—Height: *a*, 13⅝ in.; *b*, 14¾ in.

with a deposit of charred material on the outside, showing its use as a cooking utensil. A more globular form, likewise having a wide mouth, is shown in figs. 15 and 16. Most of the vessels of this kind are small, the largest one (fig. 15, *b*) being 14¾ in. in height. One of them



PROJECTILE POINTS

(*a* is $3\frac{9}{16}$ in. in length)

OBJECTS MADE OF PUMICE

(*b* is 2⅛ in. in length)

was provided with two vertical loop handles under the rim, but one of these, on the side directly opposite the other, has long been broken off (fig. 10, *b*).

FIG. 16.—Height 13⅝ in.

Bowls are unusual in these deposits, only four having been found (figs. 11, *b*, 17, 18), all of them in caves. These were not used as covers to the jars.

Only two non-mortuary jars, both of the wide-mouth type, indicate any at-

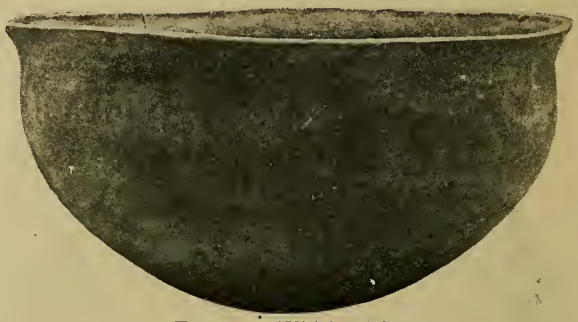


FIG. 17.—Width 16 in.

tempt at painted decoration. These are shown in pl. VI, *b*, with faint, vertical,

FIG. 18.—Height: *a*, 9⅜ in.; *b*, 8 in.

dark-red lines, and in fig. 19, which bears a crude, indistinct design in white. Of the three hundred and eighty-two vessels

CHIPPED STONE KNIFE (*a*) AND SLATE PENDANT (*b*)

not associated with human remains, two hundred and thirty-five are wide-mouth jars, while one hundred and forty-one

FIG. 19.—Height 10 in.

are of the small-neck class, and two have double necks. As mentioned, only four bowls were recovered.

CONTENTS OF THE MORTUARY JARS

Besides the calcined human bones contained in the eighty-two mortuary jars, other objects, more or less disintegrated by fire, were found in sixty-nine of them. These consist of the following:

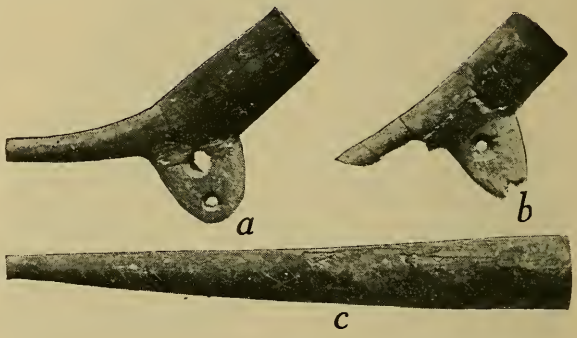
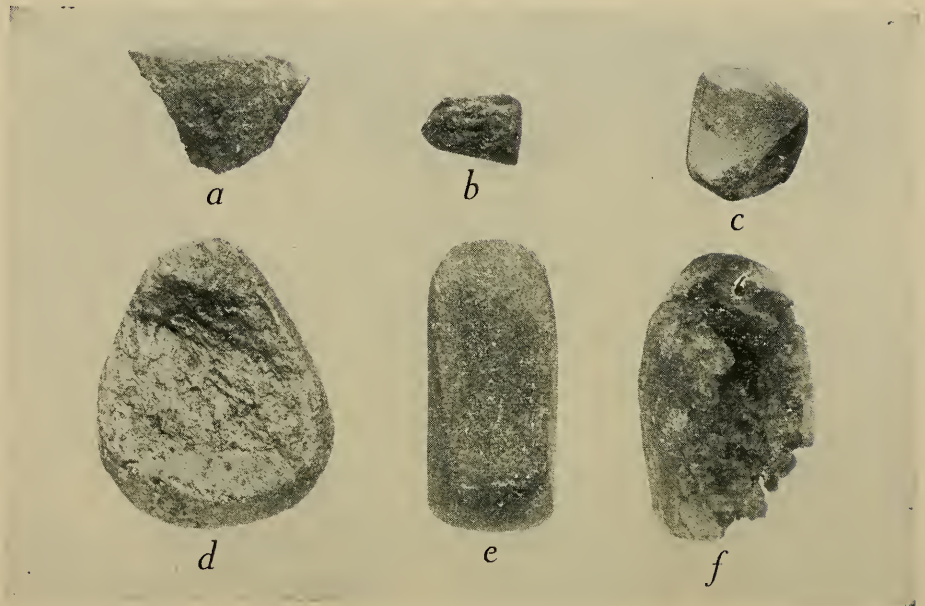


FIG. 20.—Pipes. Length: *a*, 4⅝ in.; *b*, 3½ in.; *c*, 8¼ in.

Pottery Objects.—(1) Three forms of pottery pipes, namely, the plain tubular (pl. x, *a*; figs. 20, *c*, and 21, *b*); the tubular with a projection perforated for suspension (pl. x, *b*; fig. 20, *a*, *b*; 21, *a*, and 22, *a*); and an elbow pipe with a very small mouthpiece (pl. xi). One of



PAINT STONES

the latter (pl. XI, *b*) has an incised decoration made with a pointed bone or stick.

(2) A small jar (pl. XII, *c*), perforated for suspension, of the type used to hang on the necks of funeral images,[7] although it may have served as a toy.

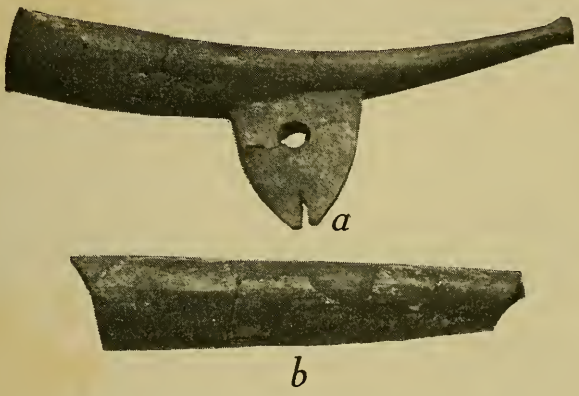


FIG. 21.—Pipes. Length: *a*, 7 in.; *b*, 5⅜ in.

(3) Two miniature bowls of thick earthenware, one of which is shown in fig. 23, *b*.

(4) A fragment of a perforated red pottery object resembling a bird's head (fig. 23, *a*).

(5) Various small potsherds, some of

which are undoubtedly fragments of pieces used as covers.

Stone Objects.—Arrowshaft straighteners (pl. XIII) were found in five different jars; they are all of steatite, and

FIG. 22.—Pipes. Length 6 in.

are of the type common to San Diego county, although the one perforated at the end (*a*) is rather unusual.

More than half the jars contained arrowpoints of obsidian, white quartz, or

OBJECTS OF SHELL

(Height: *a*, $3\frac{5}{16}$ in.; *b*, $3\frac{5}{8}$ in.)

chalcedony, nearly all with serrated edges (pl. XIV). One of the points, that shown in pl. XV, *b*, has the appearance of having been subjected to the action of fire after being made, but Prof. Bailey Willis, of Leland Stanford Junior University, pronounces it to be of pumice.

FIG. 23.—Bird's head and diminutive jar. *a*, 1½ in. long; *b*, 1⅛ in. high.

A chipped stone knife-blade (pl. XVI, *a*) was the only specimen of this kind recovered.

A pendant of slate, with an incised zigzag decoration on both sides and a double perforation at one end (pl. XVI, *b*), was found in the same jar as the knife. Another pendant, of steatite, crudely

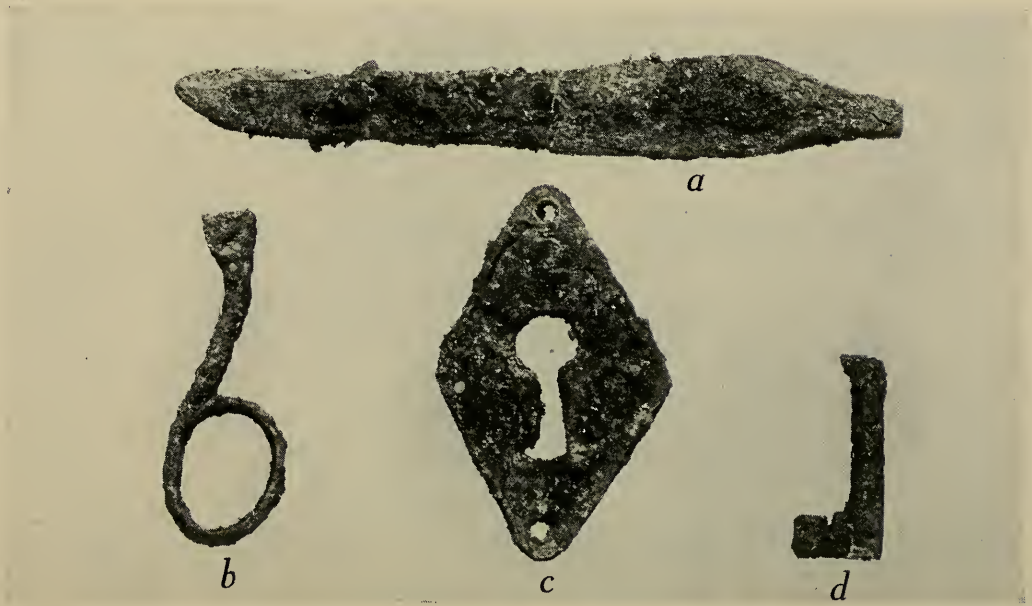
made and slightly notched at both ends (pl. XII, *b*), was found in another jar.

Three small rubbing stones of the

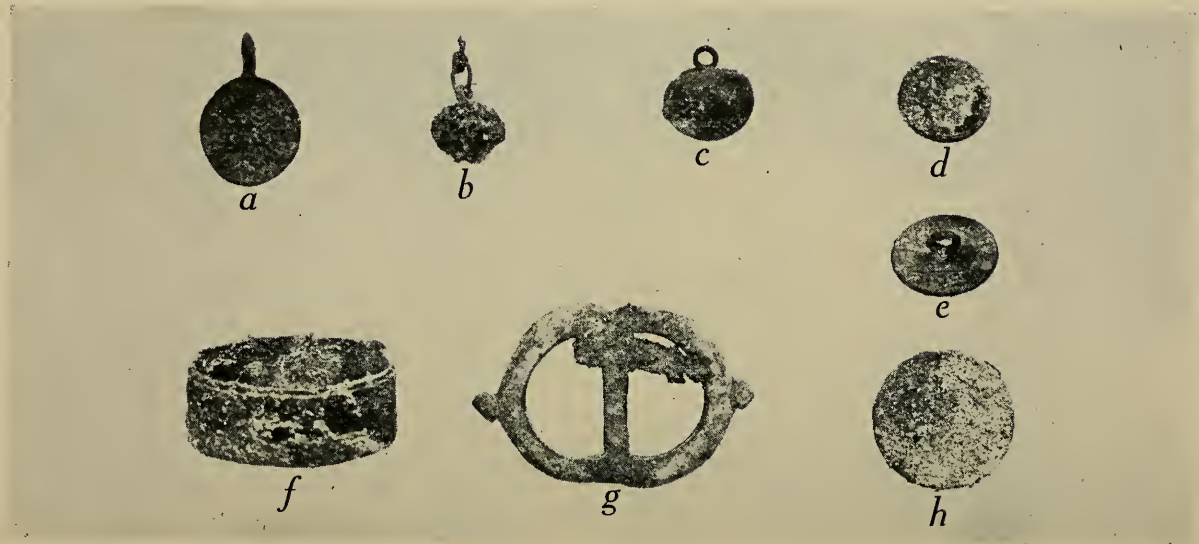
FIG. 24.—Height: *a*, 3⅞ in.; *b*, 4⅜ in.

native granite, all found in the same olla, are illustrated in fig. 25.

Paint stones, both entire and in fragments, were fairly numerous. Plate



OBJECTS OF CAUCASIAN ORIGIN



OBJECTS OF CAUCASIAN ORIGIN

XVII, *a*, represents one of a soft, clay-like substance impregnated with iron; *b* and *c* illustrate those of a material resembling gilsonite; *d* is of graphite; and *e* and *f*, of red oxide of iron.

Only one stone pipe was found in the mortuary ollas; this is of steatite, of

FIG. 25.—Height of *a*, $1\frac{13}{16}$ in.

the short, tubular type (pl. X, *c*), with a groove around one end for the attachment of a bone mouthpiece with asphaltum. This type of pipe is not uncommon to the Channel islands off the coast of California.

Two fragments of rubbing or smoothing

stones of pumice (pl. xv, *a*, *c*) were also found. Each of the three objects of pumice, including the arrowpoint above mentioned, was found in a separate jar.

The two stones showing use as hammers, illustrated in fig. 24, were the only objects of the kind among the contents of the mortuary jars.

Objects of Shell.—Owing to the action of fire, most of the artifacts of shell, if there were any, had disappeared. The principal objects of this material recovered are two pendants of haliotis shell, one rectangular in form, 1⅛ in. by 1¾ in., with a perforation at one side, and the other heart-shaped, 4⅝ in. long by 3¾ in. wide, with two perforations at the center of the broad end. One large key-hole limpet shell shows no artificial modification, but as such shells were used as pendants by the Indians of southern California, it is possible that this one had been thus utilized, thereby accounting for its presence in a mortuary jar.

A fragment of a large shell object that exhibits working on one side is shown in

OBJECTS OF CROCKERY

pl. XVIII, *a*, but unfortunately it is not sufficient to enable determination of its original shape. Shell beads were found in profusion, most of them being of the small disc form, while numerous others are made from entire olivella shells or from parts of them.

Objects of Bone.—Aside from the human bones, which were always found broken into very small pieces, only two objects of bone or of antler were recovered, namely, a fragment of a bone awl with traces of an incised decoration on both sides (pl. XVII, *b*), and a drilled fragment of an antler tip, smoothed on the outside, probably part of a tool handle.

Intrusive Articles.—The majority of articles of Caucasian manufacture found in the mortuary jars are of metal, and especially of iron. Among these are eleven knife-blades of the type shown in pl. XIX, *a*, probably originally table knives, also a portion of the handle of a pair of scissors, a lock escutcheon, and the end of a key. The objects of brass, shown in pl. XX, consist of a religious

token, an openwork pendant, a bell, a ring, a buckle with an iron tongue, and three buttons.

Four pieces of crockery ware, illustrated in pl. XXI, were among the contents of the jars. One of these (*a*) is a pendant made from the base of a pottery vessel, one a disc with a central perforation (*b*), and another a bird's head (*c*), smoothed on the base, where it was broken from the original object. Unfortunately the action of fire has fused these three specimens to such a degree that it is impossible to determine the kind of ware of which they are made. A pendant fashioned by drilling a hole in the circular base of what was probably a goblet-like vessel of copper-colored Spanish luster ware, is figured in *d* of the same plate.

Many glass beads were recovered from the urns, but most of them are fused by the action of heat. With three exceptions, all of them are small. Of these three, one is blue and one opalescent, both of the flattened globular type; and another a large, faceted bead of the famil-

iar type used for trade by the Hudson's Bay Company. In one jar was found three pieces of what appears to have been a glass bottle stopper, but it is too fragmentary to determine whether it had been worked in any manner by its aboriginal owner.

CONTENTS OF JARS OTHER THAN MORTUARY

Of the large number of jars other than mortuary, objects were found in only two of them, both recovered from caves. In one, fragments of a net made of yucca fiber, probably the remains of a rabbit net, together with some cord of the same material, were found.

The tubular pipe shown in fig. 22, *c*, was taken from a small cooking jar. The tobacco end is cracked, but is neatly bound with sinew.

For a long time it was supposed by students that the California Indians had no knowledge of pottery making, but investigations made during recent years

show that, in southern California, at least, some of the Mission Indian women were rather adept potters, and indeed the art has not yet become extinct among them.

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